REMARKS

Claims 1-14 were presented for examination and were pending in this application. In the latest Office Action, claims 1-14 were rejected. With this amendment, claims 1, 8, and 13 are amended. On the basis of the following remarks, consideration of this application and allowance of all pending claims are requested.

In the latest Office Action, the examiner rejected claims 1-14 as being unpatentable over U.S. Patent No. 5,915,008 to Dulman in view of U.S. Patent No. 5,940,598 to Strauss et al. Applicants respectfully traverse this rejection. In addition, claims 1, 8 and 13 have been amended for clarity.

To facilitate understanding of the differences between the claimed invention and the cited references, the following description of an implementation of the claimed invention is provided. In one implementation, various types of customer premise equipment (CPE) are connected to an ATM network via network termination points (NT). The NTs may be network gateways having a network interface for the user's local area network (LAN) and another towards the ATM network, or, if there is no LAN, the NTs may be an ATM/ADSL adapter card. Also included is an access server function (ASF), which has a connection to each NT and to each service provider (SP). The ASF may be a dedicated network element or can be integrated as part of another element, such as an ATM switch or a digital subscriber line access multiplexer (DSLAM). Each NT has a permanent virtual connection (PVC) to the ASF, and there is a tunneling protocol on the PVC between each CPE/NT and the ASF. The tunneling protocol allows creating and maintaining virtual private sessions, and it supports an integrated signaling protocol, where an SP is selected based on the integrated signaling protocol. Importantly, routing and connection of the CPE/NT to the selected SP is performed by the ASF.

In rejecting claim 1, the examiner suggests that the network access point (NAP) of Dulman is equivalent to the claimed NT. The examiner further states that the CPE server (element 16b, figure 2) combined with the NAP function as Applicant's ASF. The Applicant respectfully disagrees.

Applicants previously argued that Dulman's NAP is not located at the customer premises. In countering this argument, the examiner reasoned that "it is well know in the art that networked devices are able to be within the premise of one another and still be networked." But this observation is inapposite. While it is certainly possible for networked devices to be physically located in the same building, Dulman explains that this is not true for Dulman's NAP and the CPE. Specifically, Dulman states that the NAP is "also referred to as the central office." This is at odds with the examiner's characterization of Dulman — i.e., that the central office merely "can be affiliated with" Dulman's NAP. Instead, Dulman clearly explains that the NAP is the central office, and thus cannot be at the customer premises. The examiner even acknowledges that Dulman does not disclose the actual physical distance between the NAP and the CPE. Accordingly, Dulman's NAP is not at the customer premises, so Applicants' maintain their previous arguments based on this point.

Furthermore, in the claimed invention, the functions of the ASF are not combined with the NT. Illustratively, the claims recite that there exists a permanent virtual connection between the ASF and each NT. For this reason, the ASF and the NT, as claimed, are distinct elements; otherwise, the limitation that there be a permanent virtual connection therebetween would not make sense.

The examiner also states that the NAP is attached to the advanced intelligent network (AIN), so this functions as the ASF having a permanent virtual connection to each NT and a

connection to each service provider. The Applicant respectfully disagrees with this statement. In the claimed invention, routing and connection of the CPE/NT to the selected SP is performed by the ASF. For Dulman, these tasks are performed by the access server (element 48, figure 2) and column 4 lines 49-62. In particular, lines 59-62 state: "The access server then routes the provisioning data to the appropriate programmable AIN nodes in order to activate or modify the requested AIN service." It is the access server that converts the CPE service request into AIN–compatible provisioning data, and not the NAP.

The examiner also states that column 5, lines 26-38, of Dulman functions as "establishing a tunneling protocol on said PVC between each NT and said ASF, said tunneling protocol being able to support an integrated signaling protocol; the CPE or its user selecting an appropriate SP by using said integrated signaling protocol." The Applicant respectfully disagrees. Dulman, at column 5, lines 26-38, describes the access server, or "second programmable node," as translating the CPE request to at least one of the interface protocols and then routing it to at least one programmable node (e.g., AIN elements) to implement the service request. There is no mention of establishing a tunneling protocol on a PVC, the tunneling protocol supporting an integrated signaling protocol, nor of the CPE or its user selecting an appropriate SP by using the integrated signaling protocol.

The examiner also states that the CPEs of Dulman's design access and select the SP through the CPE server (element 16a, figure 2) and the NAP through the use of protocols and the examiner refers again to column 5, lines 26-38. The Applicant respectfully disagrees. As explained earlier, column 5, lines 26-38, describe how the second programming node (e.g., the access server) translates CPE format data to one of the interface protocols. There is no mention of the CPE server nor the NAP using protocols. The NAP's role in Dulman is just to route the

CPE-format data to the firewall server (element 40, figure 2). In Dulman it is the access server (element 48, figure 2) that performs the routing to the selected SP. The NAP does not have the appropriate protocols to translate the CPE service request so it would not know to which SP the routing should be made.

The examiner acknowledges that Dulman does not disclose that tunneling is possible in AIN type networks, but then asserts that Strauss does teach this through encapsulation means (e.g., at column 8, line 45). The examiner states that encapsulation is equivalent to tunneling. The Applicant respectfully disagrees.

The term "encapsulation" in computer networking means to include data from an upper layer protocol into a lower layer protocol. One example is in the TCP/IP protocol suite, where data at the application layer is encapsulated in either the user datagram protocol (UDP) or transmission control protocol (TCP), which are protocols in the transport layer. This data which is encapsulated in either UDP or TCP datagrams is then encapsulated in an IP packet (network layer) and then sent over a data link layer protocol. But tunneling protocols refer to the process of embedding data of one protocol in a given layer in packets of another protocol in the same layer. For example, routing IPv6 packets over IPv4 networks requires tunneling, as IPv4 and IPv6 are two different types of internet protocols in the network layer. Because encapsulation is not equivalent to tunneling, Strauss's disclosure of encapsulation is not a disclosure of the claimed tunneling.

Accordingly, the claims are patentable over Dulman in view of Strauss for at least the reasons presented above. For example, the combination fails to show, inter alia, the establishment of a tunneling protocol on the permanent virtual connection between each CPE or NT and the ASF, wherein the tunneling protocol supports an integrated signaling protocol;

selection of the appropriate SP being based on the integrated signaling protocol; or routing and connection of the CPE/NT to the selected SP performed by the ASF.

Based on the foregoing, the application is in condition for allowance of all claims, and a Notice of Allowance is respectfully requested. If the examiner believes for any reason direct contact would help advance the prosecution of this case to allowance, the examiner is encouraged to telephone the undersigned at the number given below.

Respectfully submitted,

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